Record of Modification

Phase 1 Site Characterization Sampling and Analysis Plan Field Activities
Columbia Fall Aluminum Company RI/FS
Phase 1 SAP MOD #10

Instructions to Requester: **Submit to Roux RI Manager or Roux RI/FS Project Manager**
Roux RI Manager will maintain legible copies in a binder that can be accessed by personnel.

Project Work Plan/QAPP (check one)**:**

[X] 2015 Phase 1 SAP

[ ] SOP (Title, # and approval date): _____

Requester: Roux Associates Date: June 12, 2017

Applicable section of SAP/SOP:

Section 4.6 Soil Sampling and Section 5.1 SOPs

Description of Modification:
Surface soil samples will be collected from the four asbestos landfills across the Site as a screening to determine the presence, or lack thereof, of asbestos in the surface soil. Samples will be analyzed via the California Air Resources Board (CARB) 435 method for determining asbestos content, as described in the USEPA's asbestos framework (https://semspub.epa.gov/work/HQ/175329.pdf).

Each asbestos landfill will be divided into grids, not to exceed 3,000 square feet for each grid cell. Within each grid cell, 30 soil sub-samples will be collected at the surface, between 0 feet and 0.5 feet, with a hand tool, such as a stainless-steel hang auger or trowel. The 30 soil sub-sample locations will be randomly computer generated sample points. Soil from each grid will be sent to Test America, Inc's EMLab P&K laboratory. As part of the preparation for the CARB 435 analysis, the laboratory will homogenize the 30 soil sub-samples for analysis of the grid as one composite sample. A total of 56 grids are estimated to be sampled. The proposed grid layouts in the asbestos landfills are shown in the attached map. The proposed soil sampling procedure is described in the attached "Standard Operating Procedure 5.13 for Collection of Composite Soil Samples for Laboratory Analysis of Asbestos via CARB 435". The preparation and laboratory procedures for the CARB 435 analysis is described in the attached laboratory SOP titled "Asbestos Analysis in Soils and Rock: CARB 435 using PLM".

One field duplicate sample will be collected for every 20 samples collected. Field duplicate samples will be collected as samples co-located in the same grid as the parent sample. The duplicate will be collected using the same number of subsamples as the parent sample, but from different randomly-selected subsample locations.

Rationale for Modifications / Potential Implications of Modifications:

Historical knowledge of operations at the Site, the existing Site Conceptual Model, and previous Site reconnaissance and test pitting, suggest that asbestos containing materials are buried in the landfills. The surface soil sampling proposed in this modification was requested by the EPA to evaluate if the historical ACM disposal activity has impacted surface soil conditions. Therefore, the Data Quality Objective of the sampling is to determine the presence, or lack thereof, of asbestos in the surface soil, which in turn can be used to evaluate if there is any potential for exposure under current site conditions. The scope of work for this sampling effort can be considered an evaluation of Steps 1 through 3 of the EPA Asbestos framework decision process.

Duration of Modification (Check one):

☐ Temporary
Date(s) _____
Sample Numbers _____

☒ Permanent (Proposed Text Modification Section) June 12, 2017
Effective Date:

Proposed Text Modifications in Associated Document:
This form serves to document the change as described above, no document revisions are proposed.

Data Quality Indicator (check one) – Please reference definitions on next page for direction on selecting data quality indicators:

☐ **Not Applicable** ☐ **Reject** ☐ **Low Bias** ☐ **Estimate** ☐ **High Bias** ☒ **No Bias**

Roux Project Manager Approval: Andrew Baris Date: June 12, 2017
(Roux RI/FS Project Manager or designate)

EPA Review and Approval: Mike Cirian Date:
(USEPA RPM or designate)

DATA QUALITY INDICATOR DEFINITIONS

Reject – Samples associated with this modification form are not useable. The conditions outlined in the modification form adversely affect the associated sample to such a degree that the data are not reliable.

Low Bias – Samples associated with this modification form are useable, but results are likely to be biased low. The conditions outlined in the modification form suggest that associated sample data are reliable, but estimated low.

Estimate – Samples associated with this modification form are useable, but results should be considered approximations. The conditions outlined in the modification form suggest that associated sample data are reliable, but estimates.

High Bias – Samples associated with this modification form are useable, but results are likely to be biased high. The conditions outlined in the modification form suggest that associated sample data are reliable, but estimated high.

No Bias – Samples associated with this modification form are useable as reported. The conditions outlined in the modification form suggest that associated sample data are reliable as reported.